BROOKHAVEN BULLETIN
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BROOKHAVEN NATIONAL LABORATORY

Riding the Information Superhighway at Brookhaven

A throng of researchers and members of the media crowded the seminar room in the Computing and Communications Division (CCD) on February 10 to watch the high-speed communications network known as the information superhighway come of age at the Lab.

In two applications shown in this hour-long demonstration, this new technology interactively linked Brookhaven researchers and physicians at the University Medical Center at Stony Brook, who could simultaneously view medical images via computer from their separate locations for fast, accurate diagnosis and treatment.

In the third application, Lab researchers tapped into the resources of the State University of New York (SUNY) at Stony Brook's massively parallel Paragon computer to assess the extent and movement of groundwater pollution.

To make these technological feats possible, CCD had been collaborating with Cablevision System Corporation, Grumman Data Systems and SUNY Stony Brook to implement the Fiber Optic, Island-Wide Super High-Speed Network, or FISHNet, one of the first high-speed, fiber-optic systems in the nation to incorporate asynchronous transfer mode, or ATM, technology.

Ronald Peierls, Department of Applied Science, shows a computer simulation of the movement of groundwater contaminants.

The state-of-the-art technology allows information to be sent across the BNL-SUNY Stony Brook network at a speed of 155 million bits per second. Eventually, this will increase to 2.2 billion bits — roughly 16,000 typed pages — in the blink of an eye.

Via the ATM network, William Thomlinson (standing) and Dean Chapman (seated) both from BNL's National Synchrotron Light Source (NSLS) Department, view transvenous angiography images simultaneously with John Dervan, SUNY Stony Brook, and Nicholas Gmür, NSLS, shown on the video screen, at the State University of New York at Stony Brook.

— Photos on this page by Roger Stoutenburgh

Lucian Wielopolski, a BNL and SUNY Stony Brook physicist, chaired a committee with members from BNL, SUNY Stony Brook and Cold Spring Harbor Laboratory that initially proposed the idea of such a network to Lab Deputy Director Martin Blume in 1992. As a result, Blume was instrumental in implementing it.

"Actually, Cablevision has been wiring Long Island with fiber-optic cable since 1989," said Mark Wiesenberg, Head of CCD, "so we are using this cable to transmit data between BNL and SUNY Stony Brook. Fore Systems, Inc., supplied the ATM switches, and Grumman Corporation acted as the system integrator."

At last Thursday's demonstration, Wiesenberg explained, "This network is a prototype — not a finished product." Researchers estimate that the network could begin to be used routinely in about six months to one year.

Cold Spring Harbor Laboratory and numerous local hospitals may be future partners in the project, eventually creating a large network linked via fiber-optics in the New York metropolitan area.

Targeting Tumors

In both medical applications, the diagnostic images created at BNL and SUNY Stony Brook were transferred between the institutions using software developed by Grumman.

In one demonstration, Allen Meek, a physician at Stony Brook's Oncology Department, and Wielopolski at BNL were each able to view, via computer, the image of a patient's brain as she was being positioned in a simulator, a machine at Stony Brook that helps physicians to determine the best patient positioning for radiation therapy at BNL.

"Delivering advanced radiation therapy to cancer patients requires diagnostic medical imaging, such as PET and SPECT at Brookhaven, and CT and MRI at Stony Brook," Wielopolski said. "By viewing these images via the high-speed network, the expense and travel required to treat patients at the Radiation Therapy Facility at BNL will be greatly reduced."

Imaging Arteries

John Dervan, a cardiologist at Stony Brook, viewed transvenous angiography images taken at Brookhaven's National Synchrotron Light Source (NSLS) simultaneously with William Thomlinson and Dean Chapman, both of the NSLS Department. Dervan was aided by Nicholas Gmür, NSLS, while he viewed images manipulated both at BNL and SUNY. The coronary arteries could be examined from several images to diagnose blockages.

BNL's transvenous coronary angiography project uses high x-ray intensity from the NSLS, coupled with advanced imaging and venous injection techniques to reduce the risks associated with conventional arterial coronary angiography. This research is a collaboration between BNL, Stanford University, Lawrence Berkeley Laboratory, North Shore University Hos-

(continued on page 2)

Lucian Wielopolski, a physicist at BNL and the State University of New York at Stony Brook, demonstrates images of a cancer patient's brain that were acquired at BNL and SUNY Stony Brook facilities.

New Head, New Structure for Protein Data Storehouse

Business is booming at BNL's Protein Data Bank (PDB), with new deposits coming in by the minute and a new leader at the helm to take the database into a new technological age.

Part of the Chemistry Department, the PDB — actually an international clearinghouse for structural information about proteins, nucleic acids and other important biomacromolecules — has become a major resource for biologists, chemists and other scientists who contribute to and draw upon its wealth of information. Each molecule's structure is stored as a computer file that includes three-dimensional coordinates for each of its hundreds or thousands of atoms.

In the past few years, the volume of information sent to the PDB has ballooned. This has resulted from the advent of crystallography using synchrotron radiation and nuclear magnetic resonance (NMR) as powerful tools for determining structures, and the emphasis on designing "smart" medicines intended to block the actions of specific molecules whose structures must first be determined.

In order to keep up with the influx, the PDB's focus is changing to make it possible to view the entire database in the same way — in essence, to see the entire forest in order to better understand each tree.

Joel Sussman

To lead the PDB through an upcoming time of change, the Laboratory has appointed Joel Sussman, a protein crystallographer and professor at the Weizmann Institute of Science in Israel.

"Joel Sussman is an outstanding scientist," said Norman Sutin, Chairman of the Chemistry Department. "He has the background in structural and computational molecular biology to provide leadership for the PDB and vision for its future. We are fortunate to have attracted him to BNL.

"I'd also like to thank Dr. Sussman's predecessor, Thomas Koetzle," added Sutin. "He is returning to full-time crystallography research after steering the PDB through impressive growth over its 22-year history."

William Studier, Chairman of the Biology Department, which includes structural biologists who use and contribute to the PDB, also welcomed Sussman. "Joel has done beautiful work on nucleic acid and protein structures and is the ideal person to lead the continuing development of the PDB, which is becoming more and more important not only for structural biology but increasingly for much of biomedical science. We are eager to have Joel as a colleague; he will be a stimulus to the whole department."

Sussman holds a joint appointment in BNL's Chemistry and Biology Departments. Besides heading the PDB, he will continue his research in structural biology, which focuses on proteins related to the nervous system, by taking advantage of the crystallography facilities at the National Synchrotron Light Source. In the coming year, he will divide his time between BNL and Israel.

Sussman is already familiar with the PDB. For the past year, he has served on its Advisory Board, representing the European Science Foundation Network for the Crystallography of Biological Macromolecules.

He notes the irony of a native Long

(continued on page 2)

See inside for stories about AUI and BNL Lectures next week.

BNL Lecture

Helping to Contain the Bomb

What do COBRAs, MIVs and HM4s have in common?

They are devices being used in the field in North Korea, Iraq and worldwide, to monitor and detect nuclear materials and, thereby, help contain the spread of nuclear weapons.

And all these — and other — devices have been developed under the management of BNL's International

Roger Stoutenburgh

Ann Reisman

Safeguards Project Office (ISPO) in the Department of Advanced Technology (DAT).

To explain ISPO's role, and how the present international situation has expanded its importance, Scientist Ann Reisman, DAT's Associate Chairman for International Programs and ISPO Head, will give the 294th Brookhaven Lecture on Wednesday, February 23. Her topic, "BNL's International Safeguards Project Office — Helping to Deter Nuclear Weapons Proliferation," will be introduced by DAT Chairman Romney Duffey and will begin at 4 p.m. in Berkner Hall.

Since 1977, ISPO has been providing the technical program management of the U.S. Program of Technical Assistance to IAEA Safeguards (POTAS). IAEA, the International Atomic Energy Agency, headquartered in Vienna, Austria, has a safeguards mission: to verify the pledges of member states that they will not use their declared nuclear activities to make nuclear weapons or other nuclear explosives.

POTAS's goal for the 17 years since its inception has been to assist the IAEA with this verification. And, as POTAS's technical program manager, charged with assessing solutions to IAEA needs, identifying developers, monitoring projects, preparing reports, and, not least, coordinating the work among all involved parties, BNL's ISPO has played a vital role, both technical and diplomatic.

In her talk, Reisman will describe some of the history, accomplishments and contributions of ISPO and the BNL scientists who created it. She will also show how ISPO has been able to increase the use of private sector developers, as in the story of COBRA. This state-of-the-art fiber-optic seal was designed at a national laboratory, streamlined and developed by private industry, and is now attracting new customers besides the IAEA — a classic tech-transfer success story being repeated in other areas.

Ann Reisman took her B.A. in biology at Cornell University in 1962, then went on to the University of California at Los Angeles, where she received her M.A. in mathematical ecology in 1965. After seven years as a freelance data analyst and computer specialist conducting statistical analyses. In 1972, she moved to Long Island where she worked as an environmental analyst.

Reisman joined BNL's Department of Applied Science in August 1974 as a computer scientist analyst, becoming an environmental scientist associate by 1981. She participated in or was principal investigator for projects on energy planning, energy systems analysis, conservation, data analysis and model development.

In 1985, Reisman moved to DAT, the then Department of Nuclear Energy, as a safeguards analyst associate. A member of ISPO from 1985 to 1992, she served successively as Project Monitor; Liaison Officer between ISPO and the International Atomic Energy Agency Department of Safeguards in Vienna, Austria; Deputy Head and then Head of ISPO.

Reisman was named Associate Scientist with a continuing appointment in 1988 and, in 1992, was promoted to Scientist. She then became Head of the International Projects Division and, in October 1993, also became a DAT Associate Chairman.

After the lecture, all are invited to join the speaker for discussion and refreshments. To accompany her to a dinner at a restaurant offsite, call Michele Rabatin, Ext. 2927.

AUI Distinguished Lecture

W.K.H. Panofsky on Managing Plutonium After the Cold War

The end of the Cold War and the concomitant reduction of nuclear weapons stockpiles will result in roughly one hundred tons of surplus weapons-grade plutonium from the combined arsenals of the U.S. and Russia. Existing means of disposal, however, cannot make a dent into this excess plutonium for at least a decade.

In an AUI Distinguished Lecture on Tuesday, February 22, renowned physicist Wolfgang K.H. Panofsky will discuss this crucial international problem. His talk, "Plutonium Management and Disposition: A Report of the National Academy of Sciences," will be given at 4:30 p.m. in Berkner Hall.

In his lecture, Panofsky will outline possible steps to improve international management and safeguarding of plutonium, to prevent theft or diversion of the material, as well as to establish the technical alternatives for long-range disposition. These include reusing the plutonium as a mixed oxide fuel for nuclear reactors and burying the waste in a repository deep within the earth.

Now Director Emeritus of the Stanford Linear Accelerator Center (SLAC) and Chairman of the National Academy of Sciences' Committee on International Security and Arms Control, Panofsky began his career in 1942 as Director of the Office of Scientific Research & Development Project, California Institute of Technology.

From 1943-45, he served as a consultant to the Manhattan Project at Los Alamos National Laboratory. He

Wolfgang K.H. Panofsky

then went to the University of California, Berkeley, where he did research and taught physics until 1951, when he joined Stanford University as Professor of Physics.

Panofsky was a leader in the design and construction of Stanford's two-mile-long linear accelerator, which began operations in 1966 and was the subsequent site for two Nobel prize-winning discoveries in physics. He was named the first director of SLAC in 1961, and served in that capacity until 1984. Panofsky has won numerous awards, including the Ernest Orlando Lawrence Memorial Award in 1961 and the National Medal of Science in 1969.

The AUI Distinguished Lecture program was initiated by Associated Universities, Inc., in 1965, and offers talks by experts on topics of general interest. Before Panofsky's talk, refreshments will be served in the lobby at Berkner Hall.

New Professorship Honors Memory of George Vineyard

An endowment for a distinguished professorship in memory of former BNL Director George Vineyard has been created at the University of Missouri-Columbia (UMC), where Vineyard was on the faculty of the Department of Physics from 1946 to 1954.

George Vineyard

The George H. Vineyard Distinguished Professorship of Theoretical Physics is intended for a mid-career, internationally known theoretical physicist. As explained in the UMC literature announcing this tenured position, "As is appropriate for this position in honor successful candidate will engender the personal characteristics of integrity and honesty, interest in the welfare of students and colleagues, and demonstrated excellence and eloquence in lecturing and teaching."

While the position is not limited to a specific area of theoretical physics, candidates having expertise in the areas of current interest to the UMC Physics Department faculty will be given preference. Women and minorities are encouraged to apply.

George Vineyard came to BNL's Physics Department in 1954 and served as its Chairman, 1961-66. He became Associate Director in 1966, Deputy Director in 1967, then Laboratory Director from 1973 through 1981, when he returned to the basic research in theoretical solid-state physics that he pursued until his death in 1987.

A short time later, Vineyard's family and friends decided to establish the professorship at UMC by seeking contributions toward an endowment of $110,000. UMC Professor Samuel Werner, who is chair of the Vineyard Professorship Search Committee, said that this goal was reached through the generosity of several hundred donors whose names will be listed in a brochure that the university will publish in the near future.

The application deadline is May 1, 1994. For more information, write to Werner at the Department of Physics and Astronomy, UMC, 223 Physics Building, Columbia, Missouri 65211; call (314) 882-3335; or fax (314) 992-4195.

Sussman

(cont'd)

Islander living in Israel representing a European organization at a Long Island-based scientific institution — especially one whose birth he assisted at a 1971 symposium held at nearby Cold Spring Harbor Laboratory.

"I was there at the inception, when Dr. Helen Berman and others got the idea of making structures available to any scientist," Sussman said. The late BNL Senior Scientist Walter Hamilton was one of the PDB's founders at Brookhaven. "Walter saw that this was a treasure of information, and had a vision of how important it would be," Sussman said. "He was right."

A Course for the Future

As PDB head, Sussman hopes to make the PDB even more accessible to scientists and more amenable to rapid additions to its storehouse of information. He envisions the PDB as a truly international collaboration that can receive not only data but also a free flow of ideas on how to improve service for its growing community of users.

Currently, 3-D structures of everything from proteins to carbohydrates to DNA are stored as a giant computer data bank at the PDB. Periodically, new releases of the entire bank of structures are sent out to institutions on compact discs, as will happen shortly with the newest collection of more than 2,000 entries.

Scientists around the world can also use Gopher, an on-ramp of the "information superhighway," to access the PDB through the Internet. This entrance was set up by PDB Acting Senior Project Manager David Stampf and co-Principal Investigator Enrique Abola, who are assisted at BNL by what Sussman called PDB's excellent and dedicated staff.

For the moment, though, PDB users can only retrieve structural information. To manipulate or modify a structure (to design a new protein based on an existing one, for example) requires additional computer software not presently supplied by the PDB.

"Right now you can't even compare three-dimensional objects," Sussman said. "I want to make the PDB into a real database, where you could ask questions across the full collection of structures, not just about one structure."

Another goal, Sussman said, is to put the PDB at the crossroads between structural biology and the gene-sequencing work being done through the Human Genome Project, by facilitating the study of how nucleic acid sequences relate to the 3-D structures of their final products: proteins.

Finally, Sussman envisions those same 3-D structures as a vivid visual-learning tool for students in kindergarten through college, accessible through computers at home and in school.

"What an extraordinary video game it would be," he predicted, "to maneuver proteins and try to dock them into their receptors!" —Kara Villamil

Arrivals & Departures

Arrivals

Dennis J. Robertson ..... Plant Eng.

Departures

This list includes all employees who have terminated from the Laboratory including retirees.

Nicholas J. Parrinello ..... AGS

Learn Black History and Help Someone Learn

It's mid-February— and you still don't have a wall calendar for 1994.

It's mid-February — and you still haven't sat down and reflected on Black History Month.

If these are your problems, the Afro-American Culture Club (AACC) can help. And, at the same time, you can help the club boost its fund for the annual Dwight C. Brown Memorial Scholarship.

As a scholarship fund raiser, this year, the AACC started selling "The Original BLACFAX CALENDAR." A limited supply of these 11"x15" wall calendars for 1994 is still available at $10 each. For your copy, contact Renée Flack, Bldg. 438, Ext. 3316. Next year's calendar will be available in time for the holiday season; look for more information next fall.

The calendar features 12 profiles of individuals prominent in African-American history, such as Susie King Baker, a teacher, Civil War nurse and cook; Edward M. Bannister, a New England artist; and John Russwurm, the first black newspaper editor.

Each day of the year also features the name, occupation, year of birth and birthplace of a prominent person of African ancestry, and a question and answer in the category for that day of the week.

For example, today's featured individual is Jawn Sandifer, a jurist born in Greensboro, North Carolina, in 1919. And, since Friday's questions always focus on sports, the question for today is: "Which National Hockey League player was always introduced by the opposition organist playing 'Short-nin' Bread'?"

Profiled in the BLACFAX CALENDAR for February 1994 is former slave and autobiographer Gustavus Vassa, 1745-1813.

The answer given on the back of the calendar is "Bill Riley, formerly of the Washington Capitols." But, as with most of the answers, there's more information: "He also had watermelons thrown at him, and heard taunts of 'shoeshine boy.' "

While this calendar is educating you about the highs and lows of black history, you will be helping to educate a promising high school senior who is about to enter college, by supporting the Dwight C. Brown Memorial Scholarship fund. Established in 1985 in memory of the AACC's founder, the $500 scholarship is awarded annually to children of AACC members.

Membership in the AACC is open to all employees. Annual dues are $5, and the club meets in Berkner Hall on the third Thursday of every month. To become a member, contact Mary Durham, Bldg. 134C, Ext. 7143.

Voice Mail Training

In response to the large number of help calls received in the Computing & Communications Division (CCD) from voice-mail users who did not attend December training on the new Octel system, CCD has arranged with Octel Corporation to provide one more voice-mail training day on Friday, February 25. The training will be held in four sessions — 9 a.m., 10:30 a.m., 1:30 p.m. and 3 p.m. — in the CCD seminar room.

Employees who missed the previous sessions or need to brush up on their voice-mail skills are encouraged to attend the session of their choice.

If you cannot attend, there's one more backup system: a 24-minute training video provided by Octel. Copies are available for loan from Nick Pisco, CCD, Bldg. 515, or from the Research Library, Bldg. 477.

Outreach: Coping With Tragedy

The World Trade Center bombing, the LIRR massacre, the siege of Sarajavo . . . while tragic occurrences punctuate the news, more personal tragedies occur daily, also leaving grief and bereavement in their wake.

"Coping With Tragedy" is the next topic to be explored by the Outreach series of workshops. Sponsored by the Employee Assistance Program of the Occupational Medicine Clinic, the workshop will be presented by clinical psychologist Marvin Einsenstadt on Tuesday, February 22, at noon in Room B, Berkner Hall. All are invited, and, afterward, the talk will be available on audiotape at the Research Library.

During his talk, Einsenstadt will outline common feelings evoked by tragedy and the healthy steps that people go through in dealing with loss. In addition, he will give historical examples of people who have triumphed despite personal tragedy, examining how they used their losses as springboards for achievement.

Having 30 years experience in the field, Marvin Eisenstadt, Ph.D., is one of the authors of the recently published book *Parental Loss and Achievement* and an expert in grief and bereavement counseling. In addition to his private practice in Syosset, Eisenstadt is a senior psychologist at South Oaks Hospital.

To register for this workshop, complete and return the bottom portion of the Outreach flyer recently sent to all employees to EAP Staff Psychologist Dianne Polowczyk, Bldg. 490, by the morning of Tuesday, February 22.

Aging and Affairs on Outreach Roster

Two more Outreach workshops are scheduled so far this year, both for Tuesdays in April. For more information on the Employee Assistance Program and its Outreach series of workshops on mental and emotional health topics, call Ext. 4567.

Date	Series & Topic	Speaker
April 12	Aging Gracefully: Advice for the Middle Aged	Michelle Steinberger, Ph.D.
April 26	Extramarital Affairs	Don David Lusterman, Ph.D.

Superhighway (cont'd)

pital and the University Medical Center at Stony Brook.

"Today we saved one-and-a-half hours of travel time," Thomlinson said. "If all the institutions in our collaboration could eventually be linked together via the ATM network, the time, expense and travel required to participate in an imaging session could be sharply reduced."

Modeling Pollution

Ronald Peierls, Department of Applied Science, showed a different application — simulating and modeling groundwater contaminants.

Numerical modeling is an important tool for predicting and planning groundwater management programs and remediation strategies. But, to work on complex models requires massively parallel computing systems, or what one called supercomputers, with powerful visualization hardware and software.

To foster this program, the U.S. Department of Energy has funded the Partnership in Computational Science, a consortium of six institutions nationwide, including BNL. The supercomputer that will ultimately be used is a 2,000-processor Intel Paragon at Oak Ridge National Laboratory in Tennessee. One of Brookhaven's goals is to visualize, interactively, the results of groundwater simulations as they are being run. The data communications requirements for this are beyond existing Internet capabilities.

"The ATM link between SUNY Stony Brook and BNL allows Brookhaven researchers to study how ATM technology can help solve this problem," said Peierls. "A smaller Paragon computer at Stony Brook is being used to run some model studies that are simpler than the ones ultimately to be run at Oak Ridge, but involve similar data-transfer demands."

Peierls demonstrated, via software developed by members of the collaboration at Texas A&M University, a simulation of how and where contaminants have leaked from a rectangular storage tank at an industrial site on the East Coast — the exact location is proprietary — over 20 years.

For this demonstration, the data at Stony Brook had been precomputed using the Paragon computer, and the direction of the flow of the contaminant was visualized with color-coded animation at a computer workstation at Brookhaven.

"This is like an environmental movie, showing us how the contaminant sinks into the ground," said Peierls.

Future Applications

According to Wiesenberg, ATM may eventually be used at BNL for desktop video conferences, or for tuning into lectures via computer screens. Eventually, the technology would also let researchers set up and monitor experiments from remote locations throughout the network.

This would be particularly helpful at the Lab's major user facilities, such as the NSLS, where approximately 2,500 researchers from all over the world perform experiments each year. Linked by the ATM network, these researchers would be able to control experiments and obtain data without traveling to the experimental site.

— Diane Greenberg

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ANITA COHEN, Editor
MARSHA BELFORD, Assistant Editor

Bldg. 134, P.O. Box 5000
Upton NY 11973-5000
Tel. (516) 282-2345; Fax (516) 282-3368

ANS Meeting

John Axe, BNL's Associate Director for Basic Energy Sciences, will speak about research at BNL's High Flux Beam Reactor in a talk entitled "Neutrons: The Kinder, Gentler Probe," at a dinner meeting of the Long Island Section of the American Nuclear Society (ANS), on Wednesday, February 23, at the Radisson Hotel, Islandia.

Following cocktails at 6 p.m. and dinner at 7 p.m., Axe will be introduced at 8 p.m. by David Rorer, Deputy Manager of BNL's Reactor Division. Make reservations by calling Julie Tuber, Ext. 2513, by February 22.

An A-Pairently Happy Snow Pair

Roger Stoutenburgh

The past two weeks have been marked by pairs: First, Long Island was overwhemed by a pair of snowstorms, the second one forcing the Lab to close last Friday. Second, many people have been transfixed by the pairs ice-skating competitions at the Olympics in Lillehammer. And third, people in love paired off for Valentine's Day on Monday. That may have been the inspiration for this happy snow pair, which a-paired after the storms ended, in the field behind Personnel, Bldg. 185.

LUG Meeting

The next meeting of the Upton Local Users Group (LUG) will be held on Wednesday, February 23, at 11 a.m. in Room B, Berkner Hall. For more information, call Zohreh Parsa, LUG chairperson, Ext. 2085.

Note to Diners

The Center Club will be closed Sunday, February 20, the day before Presidents' Day. But, it will reopen on Monday evening, February 21, at 5 p.m.

The Cafeteria will be open from 9 a.m. until 2 p.m., Saturday through Monday, February 19-21. The vended food service in Bldg. 912 will be in operation continuously.

Cafeteria Menu

Monday, February 21 - Presidents' Day
Snack bar service - 9 a.m.- 2 p.m.

Tuesday, February 22

Soup: Minestrone w/sausage	.80/1.10
A la Carte: California chicken	3.65
Fitness: Tomato & scallion quiche	3.45
Deli: Roast beef sandwich au jus	2.95
Grill: Spanish omelet	2.35
Salad: Chef's seafood	

Wednesday, February 23

Soup: Beef & vegetable w/rice	.80/1.10
A la Carte: Sausage & pepper calzone	3.35
Fitness: Beef w/green peppers over rice	3.85
Deli: Virginia ham sandwich	2.95
Grill: Italian cheese steak	2.95
Salad: Fresh fruit	

Thursday, February 24

Soup: Italian escarole w/chicken	.80/1.10
A la Carte: Oven-crisp chicken	3.45
Fitness: Pasta primavera	3.35
Deli: Corned beef sandwich	2.95
Grill: Monte Cristo platter	2.95
Salad: Cantaloupe	

Friday, February 25

Soup: New England clam chowder	.80/1.10
A la Carte: Display cooking - chicken scampi	
Fitness: Sole w/remoulade sauce	3.45
Deli: Roast turkey sandwich	2.95
Grill: Fried clam boat	3.25
Salad: Grilled chicken platter	

Softball

Each team in the Softball League must be represented at a softball captains' meeting at noon on Thursday, February 24, in Room B, Berkner Hall. Items to be discussed include league structure, team fees and rules changes.

Bowling

Purple League

Manny Dador bowled a 228/607 scratch series, Ben Belligan 214, Andy Warkentien 201, Norman Fewell 194, Sam Logan 191, Kay Conkling 188, Debbie Keating 170.

High Scores of Industrial Tournament

R. Mulderig bowled 237/222, K. Asselta 223/217/205, R. Larson 213/ 210, A. Warkentien 202.

Note to Employees:
Attendance at lectures, meetings and other special programs held during normal working hours is subject to supervisory concurrence.

Basketball

Games of February 10

Scram	58	Deep Six	48
Steve Nappi	13	Brian Hobson	13
Al Boerner	12	Darren Harris	12
John Duggan	8	Greg Mack	7
Victor Cassella	6	Dwayne Eleazer	6
Tim Powers	6	Ed Taylor	4
Steve Coleman	5	Neil Tyler	4
Alan Jones	4	Ulysses Tapley	2
John Skonieczny	4		

Three-point shots: Hobson (3), Nappi.

Runaways	72	Knicks	53
Pete Ratzke	33	Chris Ingoglia	23
Ed Meier	14	Ed Gregory	7
Jerry Gaeta	13	Tom Snow	5
James Desmond	4	Al Langhorn	4
Chris Saxen	4	Mike Parks	4
Bob Wells	4	Al Ratti	4
		Rich Domenech	3
		Dan Delgado	2
		Mike Mauro	1

Three-point shots: Ingoglia (5), Domenech, Gregory, Snow.

Amateur Radio

The monthly meeting of the BERA Amateur Radio Club will take place at noon on Thursday, February 25, in Room D, Berkner Hall.

All Lab employees, guests and licensed amateur-radio operators are invited to attend. For more information, call Chris Neuberger, Ext. 4160, or Nick Franco, Ext. 5467.

Equipment Demos

On Thursday, February 24, from 10 a.m. to 3 p.m. in Berkner Hall, Contech Instrumentation will present a product showcase, including measuring and recording instruments from Yokogawa, and dc power supplies from Xantrex.

The Yokogawa display will include the ORP1200 thermal array oscillographic recorder, 2531 digital power meter, DL1300 digital oscilloscope, temperature recorders, and data loggers. The Xantrex display will include the XPR and XHR series of 60-to-2500-watt dc power supplies, which are built to ISO9002 specifications.

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On Friday, February 25, from 10 a.m. until 2 p.m. in Berkner Hall, Digital Equipment Corporation will present its open client-server strategy.

Hardware demonstrations will include: the DEC 3000/600, DEC AXP150, DECpc LPx, VTX2000 X-Terminal, VTX150 INFOserver, and various printers. Software demonstrations will be available for OpenVMS, OSF/1, Windows NT, PATHWORKS, OBJECTBROKER, FUSE, Linkworks, Sybase, COHESIONworX, PVwave, Mathematica, and KUBOTA's Denali.

AIX Meeting

The next meeting of the AIX Local Users Group will be held on Thursday, February 24, at 10:30 a.m. in Physics, Bldg. 510, Room 2-160.

The meeting will center around a discussion of updating systems to AIX 3.2.5. For further information, contact Ronnie Evans, Ext. 2851.

At the Pool

The BNL pool, Bldg. 478, is open year-round for lap and recreational swimming. For more information on the following programs at the pool, call Susan Juzwak, Ext. 3147 or 3496, after 4 p.m.

Lifeguard Course

BERA will offer a lifeguard training course from 8 to 10:30 p.m. on Wednesdays, beginning February 23 and ending April 20. The cost is $100 per person, and registration will take place at the pool.

All interested must pass a swimming pretest, which will be given before the first class. Class size will be limited, and participants must be at least 16 years of age.

Adult Swim Lessons

Swimming lessons for adult beginners and intermediates will be given for eight weeks on Monday nights from 5:15 to 6:15 p.m., beginning February 28 and ending April 18. Lessons are open to all BNL employees and family members 18 years or older. The cost will be $40 for lessons, plus $2 per lesson entrance fee or current season pass. Sign-up at the pool is ongoing until the first night.

Classified Advertisements

Placement Notices

The Laboratory's placement policy is to select the best-qualified candidate for an available position. Consideration is given to candidates in the following order: (1) present employees within the department/division and/or appropriate bargaining unit, with preference for those within the immediate work group; (2) present employees within the Laboratory; and (3) outside applicants. In keeping with the Affirmative Action plan, selections are made without regard to age, race, color, religion, national origin, sex, handicap or veteran status.

Each week, the Personnel Division lists new placement notices. The purpose of these listings is, first, to give employees an opportunity to request consideration for themselves through Personnel, and second, for general recruiting under open recruitment. Because of the priority policy stated above, each listing does not necessarily represent an opportunity for all people.

Except when operational needs require otherwise, positions will be open for one week after publication.

For more information, contact the Employment Manager, Ext. 2882, or call the JOBLINE, Ext. 7744 (282-7744), for a complete listing of all openings.

LABORATORY RECRUITMENT - Opportunities for Laboratory employees.

DD 8192. SECRETARIAL POSITION - Requires an AAS in secretarial science or equivalent, excellent organizational, communications and PC skills. Familiarity with WordPerfect, spreadsheets, graphics software and knowledge of Laboratory policies and procedures desirable. Responsibilities will include preparation of correspondence and reports, maintenance of a structured files system, arrangement of travel on IPAP system, and arrangements of meetings and conferences. (reposting) Office of Environmental Restoration.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside candidates.

DD 8190. TECHNICAL POSITION - Requires an AAS degree and several years' health physics or industrial hygiene technician experience. Will provide Safety & Environmental Protection coverage to the AGS. Participation in respirator, industrial hygiene and general safety-training programs is required; some shift work also required. Safety & Environmental Protection Division.

DD 2994. OFFICE SERVICES POSITION - (temporary) Requires an AAS or equivalent experience and excellent communication skills; previous experience in the real-estate or institutional-housing field required. Will handle all requests for off-site housing during the summer period. Will research, develop and inspect potential rental units as well as coordinate efforts of department and individuals in obtaining appropriate housing. Valid NYS drivers license is required, as is familiarity with WordPerfect 5.1 or 6.0. Staff Services Division.

DD 0528. TECHNICAL POSITION - (term appointment) Requires a BSEE or equivalent experience and extensive experience in the design of complex digital circuits, as well as experience with the following: FPGA design, VME and VXI interface design, high-speed ADC application and SMT fabrication. Knowledge of the Viewlogic design tools, digital-signal processors, and accelerator-instrumentation systems is preferred. Will be responsible for the design and procurement of VXI modules, DSP subsystems and timing-interface circuitry for the RHIC beam instrumentation system. RHIC Project.

LS 8199. ENGINEERING POSITION - Requires a BS in safety or environmental engineering or equivalent with several years' experience in environmental, safety or worker-health planning. Must have good analytical skills, excellent oral and written communication skills, experience with computer database management systems and statistical techniques. Safety & Environmental Protection Division.

Motor Vehicles & Supplies

92 CAVALIER - a/t, ac, p/l, anti-lock brakes, 16k mi., transferable warranty. John, 821-6587.

91 MUSTANG LX - 13k mi, 5-spd., h/b, ac, p/w, p/d, cruise, Benzi anti-theft, warr., 4-cyl., tibini blue, mint, $8,200. Sal, 281-6187.

91 TOYOTA CORRADO - like new, all options, 36k mi., Jon, 732-9370.

88 FORD F250 - 8' bed, complete w/tailgate lights & step bumper, mint cond., $850; '74 Jeep CJ5, 360 V-8, runs, needs body work, $500. Bill, 288-5846.

86 MITSUBISHI CORDIA - turbo, 4-spd., ac, sunroof, cruise, 2-dr., needs shocks, tires, sunroof, $925. Fawn, 744-9794.

85 OLDSMOBILE CALAIS - blue, $1,000. Ext. 1229.

84 TRANS AM - red, 5-spd., 305 eng., ac, T-top, p/w, p/l, 76k mi., garaged, good cond., car cover, best offer. Anthony, Ext. 4035.

81 GMC SIERRA 1500 TRUCK - $10,000 invested, sacrifice $5,500 or best offer. Kris, 581-8438.

77 CORVETTE STINGRAY - white, T-top, 350 eng., Kenwood stereo, excel. cond., $6,500. Lynn, 447-0920.

SERVICE MANUAL - 1990 Mazda 626 or MX-6, $20. Ext. 5054 or 286-5897.

Boats & Marine Supplies

29' THOMPSON DAYTON - 1987, sleeps 6, radar, Loran, many extras, excel. cond., $27,900 or best offer. Dan, 878-6007.

22' CATALINA SLOOP - 1982, 7.5-h.p. Honda outboard, many extras, excel. cond., $5,000. Ext. 3751 or 589-5490.

WINDSURFING BOARDS - Mistral Tarifa, F2 360, F2 330, sails & equipment, make offer. Ken, 331-1841.

WIND SURFER - Mistral, complete, w/sail, $90. Ekkard, Ext. 3759.

Furnishings & Appliances

BAR - 6' long, oak wood, 3 shelves, sliding doors, asking $100. Bob H., Ext. 4446 or 654-3989.

BEDS - 1 queen, 1 twin; oak dresser; 2 end tables, glass top. Ramesh, Ext. 3267.

BED - metal frame, twin size, opens to queen size, $35; bed, twin, child/youth, oak, 2 drawers, used 1 yr., orig. $380, asking $180. 821-6856.

CURIO CABINET - walnut top, 4 glass shelves, light bottom, w/light. Bob, Ext. 7238.

CHANGING TABLE - excel., like new. Ext. 2719.

DINING ROOM SET - light oak table, 2 leaves, 6 chairs, breakfront w/mirrored back, glass shelves, table pad, $950. 368-6115.

DINING ROOM TABLE - 5 chairs, oak, v.g. cond., $250. 232-1874, leave message.

DRESSER - 5 drawers, light wood, chestnut color, dresser, $25; microwave, Sanyo, portable, microwave, excel., orig. $125, sell for $50. 473-3852.

ENTERTAINMENT CENTER - heavy, oak finish, 2 tinted glass doors, 4 adjustable shelves, 2 bays, 45"x34"x19" deep, excel. cond., $45. 722-4489.

FUTON - twin, frame, blue mattress, excel. cond., $100 neg. Bill, 281-6498.

HEATER - Kerosun Omni, kerosene, excel., $75. M. Rosen, Ext. 2388.

LIVING ROOM SET - 1 sofa bed, 2 recliners, 2 end tables, 1 coffee table, 1 lamp/stand, Colonial, good cond., $500. Tom, Ext. 5265.

SOFA - queen size, Castro convertible, teal blue color, v.g. cond., $300 firm. Thiessen, 4164.

STOVE/REFRIGERATOR/SINK - 3-in-1 unit, perfect for small apt., $450. Marie, 589-3020.

WALL OVEN - self-cleaning, GE, 26", good cond., Bob, 289-2986.

WASHER/DRYER - Sears, upright, 18 lb. capacity, hardly used, $650 neg. Maryann, 395-4009.

WASHER & DRYER - washer used very little, elec. dryer works OK, $100/both. Bob, Ext. 3782.

DESK - rolltop, large, oak, excel. cond., honey oak finish, $300. Mike, Ext. 5972 or 744-4579.

RANGE - kitchen, bottled gas, 30", good cond., $50. 924-6751.

SOFA - $60; dresser, $25; armchair, $10; lamp, desk, chair; patio table, w/2 chairs, $20; Ekkard, Ext. 3759.

WICKER LOVESEAT - white, 2 chairs w/cushions, chest, full-length mirror, etagere, good cond., best offer. Anthony, Ext. 4035.

Tools, House & Garden

CONVERTER - Phasemaster, 3 phase to single, 3-h.p., new, $400. Dave or Teri, Ext. 5800 or 289-2925.

FIREWOOD - seasoned split, stacked hardwood, $110/cord, delivered, leave message. Ken, 331-1841.

SAW - radial arm, Craftsman, 10", w/stand, dust hood, $275. Ralph, Ext. 2591.

SNOW BLOWER - 2-stage, 32" cut, track drive, 6-spd., 5-h.p., elec. start, new, used 3 times, $800 neg. John, Ext. 7340.

SLIDING PATIO DOORS - Andersen Perma Shield, frenchwood, panels, w/screens, brass hardware, FWG 6068, unused, $650. Gerry, 447-6528.

Sports, Hobbies & Pets

COMICS - private collection, 1 big box, approx. 300, book value $600, best offer. Joe, 924-4070.

DRUMS - 4-piece starter set, good cond., $75. Tom, Ext. 4507 or 878-1060.

GUITAR - Fender Stratocaster 1993 Lake Placid Blue, mint cond., still in box, vintage hardware, $300. Louie, 399-6128.

KEYBOARD - Ensoniq, 16 Plus, sampler, w/16 track sequencer, 2 meg RAM, 1 meg flash ROM, 24-bit effects, 7 mo. old, $1,195. Veligdan, Ext. 5400.

KEYBOARDS - Yamaha 4C45-D, 2 manuals, Carlo Rubelli Superstringer, Yamaha R100, Leslie speakers, great sounds, $500. John, Ext. 7340.

KENNEL - portable, 24"Wx36"Dx26"H, $50 or best offer. Diana, Ext. 5735.

LACROSSE STICK - STX Dominator, 1 yr. old, hardly used, excel. cond., asking $60. Alex, 929-5945.

SCUBA WEIGHT BELT - pellet-type, brand-new, $60. 722-3905.

SKIS - Dynamic VR27, w/Solomon 747 bindings, brand-new, never used, $400. Technica size 10 boots, black/green, $100. Chris, Ext. 7365.

SKIS - Fischer Vacuum 185, Marker bindings, lifetime free waxing, new cond., orig. $325, sell for $200. 473-3852 afternoons.

SKI BOOTS - Raichle Flex Extreme, used 1 season, size 10, orig. $400, asking $200. Bob H., Ext. 4446 or 654-3989.

TREADMILL - Weslo, 0-6 mph, electronics, excel. cond., adjustable resistance, hardly used, $450. Jean, Ext. 4938.

WORKOUT EQUIPMENT - Flex Plus cross training system, 39 exercises, v.g. cond., $170. Takashita, Ext. 5322.

ICE SKATES - hockey, men's, size 7, Wildcat, excel. cond., $20. Bob D., Ext. 5439.

Audio, Video & Computer

COMPUTER - IBM compatible, 386 SX, 16 MHz, 1 MB RAM, 40 MB HD, 5¼", 3½" floppy disks, VGA color mon., software. Victor, Ext. 3823.

SPEAKER BOX - hot box, two 12" tweeters, two muds, molded box, $125. Brett, 929-4753.

TV - 25", color, remote, Zenith, console, speakers, wood grain, excel., $125. 473-3852 afternoons.

TYPEWRITER - Smith Corona XD8000, Spell-Right dictionary, Word-Right autospell, 18 memory files, self correction needs repair, $25. Don, Ext. 2981.

VIDEO GAMES - Game-gear, good cond., w/Sonic2 & Taz-Mania, $80. Joe, 924-4070.

CAMCORDER - Hitachi S-VHS, many features, like new, orig. $1,200, sell for $675. L. Arnold, Ext. 5462.

COMPUTER - IBM PS/2, model 30, 65MB HD, mouse, 5¼" & 3½" floppies, VGA monochrome monitor, programs, $250. Tom, Ext. 4563.

VIDEO GAME SYSTEM - Nintendo, zapper, power glove, Advantage joystick, cleaning cartridge, 7 different games, $120/all. Joe, Ext. 4639.

Lost & Found

FOUND - scarf, Aris, brown, near Bldg. 134. Diane, Ext. 2347.

Wanted

BABY-SITTER - for an occasional night out, 2 children, Eastport area. 325-1907.

MARINE FISH - looking for healthy, inexpensive, tropical, saltwater fish. Jim, Ext. 4617.

OUTBOARD ENGINE - 10-15 h.p., decent cond 924-6751.

PARENT'S HELPER - help care for toddlers and some light housekeeping, part time, flexible hours, Mastic Beach. Heidi, 399-1934.

PING-PONG TABLE - Harold, Ext. 2582.

TREADMILL EXERCISER -power or nonpower, I'm going stir-crazy, no exercise, help! Bill, 281-6498.

Classified Ad deadline is 4:30 p.m. Friday for publication Friday of the next week.

The Brookhaven Bulletin is printed on paper containing at least 50 percent recycled materials, with 10 percent post-consumer waste.